

Japan

Japan has the third largest electronics manufacturing industry in the world and is home to two of the top ten semiconductor buying companies, Sony and Toshiba. Japan is the fourth largest export market for semiconductor manufacturing equipment (SME). Japan is a participant in the WTO Information Technology Agreement (WTO ITA), so most types of semiconductors and semiconductor manufacturing equipment enter the country duty-free. There are also no non-tariff barriers in Japan for semiconductors or semiconductor manufacturing equipment. This makes it an attractive market.

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Semiconductors

Japan imported \$24.5 billion of semiconductors in 2013⁵¹ and imports from the U.S. totaled \$2.8 billion⁵², indicating U.S. share of Japanese imports of a little over 11 percent. However, this figure is deceiving since many U.S. companies manufacture their semiconductors in the United States, but then contract the final assembly/packaging⁵³ and test steps in third countries, from which finished semiconductors are exported to Japan. Japan is a large, mature market for U.S. semiconductor companies, ranking second overall worldwide. Imports into Japan are very competitive – with China and Taiwan accounting for fifty percent market share.

Japan's electronics products industry, which is the third largest in the world, is the largest demand factor driving sales of semiconductors to Japan. Japanese electronics production is expected to grow from \$93.0 billion to \$97.2 billion from 2014 to 2016,⁵⁴ an average annual growth rate of 4 percent. According to the Japan Electronics and Information Technology Industries Association (JEITA), in 2013 Japanese electronics and IT companies manufactured 35 percent of their products in Japan.

For high tech electronics the percentage is significantly higher – 88 percent of display devices were manufactured in Japan, 64 percent of electric measuring instrumentation, 75 percent of server/storage equipment, and 63 percent of medical equipment. The largest Japanese consumer electronics companies missed out on the mobile communications revolution and have been operating at substantial losses producing commoditized consumer electronic products, and companies such

as Sony, Panasonic, Sharp, Toshiba, and Hitachi are in the process of restructuring. Japan's once-formidable semiconductor industry is greatly diminished today, with some firms going bankrupt, plants closing, assets being divested and companies being sold. For example, in 2013 Micron (USA) purchased Elpida Memory (Japan) to create the fifth largest semiconductor company in the world. A lot of chip manufacturing capacity and sales activity has moved outside of Japan to rivals such as Korea's Samsung Electronics and Taiwan's TSMC.

Semiconductor Manufacturing Equipment

Japan is the fourth largest U.S. export market for semiconductor manufacturing equipment (SME). U.S. SME sales to Japan reached \$4.2 billion in 2014⁵⁵, and are projected to reach \$4.7 billion in 2016. Average annual growth rate is projected at 6.2 percent, slightly lower than the world average growth rate of 8 percent.⁵⁶

Recently, Digitimes reported that Japan's production of semiconductors grew 8.7 percent from 2013 to 2014,⁵⁷ which shows the industry may now be recovering. This bodes well for future SME sales.

Challenges and Barriers to U.S. Semiconductor and Semiconductor Manufacturing Equipment Exports

Semiconductors

Overall, U.S. semiconductor manufacturers enjoy barrier-free access to Japan's semiconductor market. Japanese semiconductor device producers do not present a very strong challenge, but Korean and Chinese chipmakers provide competition in some types of semiconductors.

Semiconductor Manufacturing Equipment

Overall, U.S. semiconductor manufacturers enjoy barrier-free access to Japan's semiconductor manufacturing equipment market as well, but Japan can be a challenging market for U.S. companies due to the in-market competitors.⁵⁸ Japan's share of the global semiconductor manufacturing equipment market – 32 percent – is ranked second after the United States' 44 percent share.⁵⁹

Opportunities for U.S. Companies

The electronics products manufacturing sector is Japan's largest end market for semiconductors. With electronics and infotainment becoming more prevalent in automobiles, Japan's very large automobile manufacturing industry presents good opportunities for U.S. semiconductor companies.

Semiconductors

The Japan Electronics and Information Technology Industries Association (JEITA) forecasts a second straight year of growth in Japanese electronics manufacturing in 2015, rising 2 percent to reach \$101.7 billion in sales. This means growth

opportunities for U.S. semiconductor companies that supply chips for: display devices in smartphones, which are getting larger and have increasing screen resolution; computer server/data storage equipment (to equip new data centers); electronic measuring instruments and electro-medical equipment; the Internet of Things (IoT); and automobile electronics.

Most semiconductors are imported into Japan tariff-free under the WTO Information Technology Agreement, presenting an opportunity for leading edge U.S. semiconductor companies to access the market.

Semiconductor Manufacturing Equipment

Most SME also enters Japan tariff-free under the Information Technology Agreement. Like most WTO ITA participant economies, Japan has not attempted to protect certain types of SME that are not explicitly specified under the 1996 Information Technology Agreement by creating exceptions in their tariff code. Although Japan's market for SME is not expected to grow at a strong rate from 2015-2016, Japan remains an important, but also competitive, market for U.S. suppliers.



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